National Institute of Environmental Health Sciences

The impact of major heat waves on all-cause and cause-specific mortality in France from 1971 to 2003

Author(s): Rey G, Jougla E, Fouillet A, Pavillon G, Bessemoulin P, Frayssinet P, Clavel J, Hemon D

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Abstract:

OBJECTIVES: The aim of the study was to identify the major heat waves (HW) that occurred in France from 1971 to 2003 and describe their impact on all-cause and cause-specific mortality. METHODS: Heat waves were defined as periods of at least three consecutive days when the maximum and the minimum temperature, averaged over the whole France, were simultaneously greater than their respective 95th percentile. The underlying causes of death were regrouped into 18 categories. Heatstroke, hyperthermia and dehydration were assigned to the "heat-related causes" (HRC) category. The numbers of deaths observed (O) during the identified HW were compared to those expected (E) on the basis of the mortality rates reported for the three preceding years. RESULTS: Six HW were identified from the period 1971 to 2003. They were associated with great excess mortality (from 1,300 to 13,700 deaths). The observations are compatible with a moderate harvesting effect for four of the six HW. The mortality ratios increased with age for subjects aged over 55 years and were higher for women than for men over 75 years. For the six HW, the excess mortality was significant for almost all the causes of death: (1) the greatest excess mortality (O-E) were observed for cardiovascular diseases, neoplasms, respiratory system diseases, HRC, ill-defined conditions and injury and poisoning, and (2) the mortality ratios (O/E) were highest for HRC, respiratory diseases, nervous system diseases, mental disorders, infectious diseases, and endocrine and nutritional diseases. CONCLUSIONS: Heat waves associated with excess mortality are not rare events in this temperate-climate country. The excess mortality is much greater than HRC mortality. Some populations are particularly vulnerable to HW: the elderly, women and people with some specific diseases. However, no segment of the population may be considered protected from the risks associated with HW.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2291483

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Injury, Morbidity/Mortality, Other Health Impact

Other Health Impact: heat related mortality

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified